

Forum: ECOSOC

Issue: Promoting computer programming and apps development education in primary education curriculum

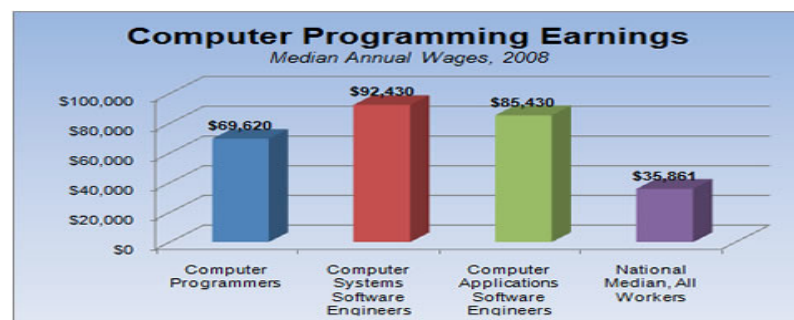
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Introduction:

The United Nations made achieving universal primary school education one of its millenium goals (“UN Millenium Project”).

However, in order to make the education as beneficial as possible to the students, current day technology should be implemented in school curriculum. Current day technology (computers, phones, etc.) has shaped our lives in so many previously unimaginable ways. Technology has become such an essential part of our lives that the curriculum taught in schools must be coupled with new technologies in order to be useful to students. Technology has the power to increase the efficiency of teaching in schools and increase the opportunities that children will have as they grow up (“Technology, Broadband, and Education”). Unfortunately, many LEDCs (Least Economically Developed Countries) do not have the resources for the implementation of computer programming and apps development education in schools. However, in order to make sure that children are learning the technological skills required for many jobs today, computer programming and apps development education must be promoted and implemented. Looking at the chart below, we can see that computer programmers/ computer scientists are highly paid. This is because we need computer programmers and people who are highly skilled with computers in our world today.



(Chart depicting median annual wages of computer based jobs compared to all other jobs)

("University Bound Network Sites").

Definition of Key Terms:

Computer Program- “a sequence of instructions, written to perform a specified task with a computer. A computer requires programs to function, typically executing the program's instructions in a central processor” (“Computer Program”).

Code(verb form relating to computers)- “to translate (a program) into language that can be communicated to the computer” (“Coding”).

Mobile Applications Development- “Mobile application development is the set of processes and procedures involved in writing software for small, wireless computing devices such as smartphones or tablets” (“Mobile Application Development”).

Software Engineering- “A branch of computer science that deals with the design, implementation, and maintenance of complex computer programs” (“Software Engineering”).

General Overview:

Organizations like Code.org have been working to make computer programming accessible to everybody. By 2020, there will be approximately 1.4 million computer jobs, but only 400,000 students to take them (“Code.org Launches....”). In addition, computer science is the second highest paid college degree, yet most people don’t choose to make that their career (“Code.org Launches....”). Think about MacBooks, iPhones, PCs, and all the other technology that is available. People are needed to make these technologies, and improve them. The world runs on computers, but there aren’t enough people that know how to code or develop apps, and that is because it isn’t taught in schools. According to Code.org, only 6 out of every 1000 teachers teach computer science full time (“Code.org Launches....”). This is shockingly low for a world that runs on computers. We need to start preparing children early on for the technological world that they’re going to face when they grow up, and one way to do that is by promoting apps development and computer programming.



Children learning how to use computers
("Backed By \$3.25 Million...")

The major problem with trying to promote computer programming is that not everyone has a computer. In fact, most children in LEDCs do not have access to computers. In order to promote computer programming, these children need to be given or loaned computers. One Laptop per Child is an organization that works to make sure that children all over the world have access to laptops. These laptops are cheap and low-powered, but extremely useful to help children learn ("One Laptop per Child"). An experiment was conducted with these laptops, in which the laptops were programmed with a range of apps including one that taught the alphabet. The laptops were given to children in an Ethiopian village, however, the children did not have teachers to help them use the laptops ("Utilities Brace for Electric Vehicles"). Within a couple of months, the children were reciting the alphabet, writing words, and had even managed to hack the android system ("Utilities Brace for Electric Vehicles"). This goes to show that children learn at rapid paces, are extremely curious, and can do so much if they are just given an opportunity. Even without teachers, children will find a way to manipulate the resources they have and learn. It reaffirms the fact that computer programming and apps development should start at a young age.

With more organizations like One Laptop Per Child and code.org, children will hopefully be exposed to computer programming and apps development at a very young age.



Young children working with computers
("Hacking Play Blog")

Major parties involved in this issue:

The United Kingdom

The United Kingdom's department of Education recently decided to create a program in which all public schools will have to implement a new curriculum into their education systems ("Hacking Play Blog"). This curriculum will allow children from the age of five and above to learn computer programming, coding, and apps development. There will be four stages to this program, and by the end of the first stage, children will be expected to create their own computer programs ("Hacking Play Blog"). This curriculum will be implemented in 2014, and will help prepare children for the technological world that they will face when they finish their education ("Hacking Play Blog").

Estonia

A program called ProgeTiiger has been implemented in Estonia. This program allows children from the age of 7 onwards to learn computer coding and programming ("Hacking Play Blog"). This program has been executed in schools all around Estonia and is structured to prepare young children for the world of computers that they will surely face growing up ("Hacking Play Blog").

Directi

Directi is a privately run company which just started an online coding program that aims to help children in India prepare for a coding olympiad ("Hacking Play Blog"). This coding program is rigorous, but effective in teaching children the basics of computer programming and coding. It allows children who don't have access to formal computer classes in their schools to learn how to program and code.



Special tablets for underprivileged kids
("Designer of Laptop for Poor Kids Starts Company")

Timeline of Events:

1967	Seymour Papert designed a computer programming language for children called LOGO ("Computer History Museum")
1988	Computers are integrated into the Costa Rican education system ("One Laptop Per Child (OLPC) View Timeline")
November 2005	\$100 laptops (by OLPC) become a reality ("One Laptop Per Child (OLPC) View Timeline")

January 2006	One Laptop Per Child and United Nations Development Program join forces to give children access to computers ("One Laptop Per Child (OLPC) View Timeline")
May 2010	The broadband Commission for digital development is launched by the secretary general of the International Telecommunication Union (ITU) and director general of UNESCO in order to help integrate technology into the lives of more people. This was in hopes that technology would make education systems more efficient and prepare students for the increasing number of jobs in the technological industry ("Technology, Broadband, and Education").

UN Involvement, Relevant Resolutions, Treaties and Events:

UNESCO, The United Nations Educational, Scientific, and Cultural Organization has been working tirelessly to achieve the millenium development goal of ensuring universal access to primary school education. They understand the importance that technology plays in this goal as 90% of the world has access to SMS, thereby promoting digital literacy ("Technology, Broadband, and Education"). In addition, the United Nations Development Program has agreed to back up the organization, One Laptop Per Child, in its endeavours ("Technology, Broadband, and Education"). UNDP works to connect countries and give countries the knowledge and resources to help them build better lives for their people ("United Nations Development Program"). Their support of One Laptop Per Child shows their commitment to ensuring that children have access to computers from an early age, which could lead to them learning how to program computers and develop apps.

Possible Solutions to the issue of promoting computer programming and apps development education in primary education curriculum are:

1. Create a new branch of UNDP specially dedicated to promoting computer programming and computers in general all around the world, in partnership with One Laptop Per Child and Code.org. UNDP and Code.org would also train volunteers to go teach children in

underdeveloped countries the art of computer programming and apps development.

2. Requests that UNDP make a major goal of its new branch this: Every school should have access to laptops/computers by 2025.

3. Raise awareness about the importance of computer programming through news channels and broadcasts, advertising for computer programming classes, and shocking statistics about the technology industry.

4. Asks that UNESCO and UNDP promote cheaper forms of technology like phones (digital literacy) and inexpensive computers in order to give more children the chance to learn and have access to the growing field of technology.

5. Asks governments to implement coding/computer programming classes in their education systems, wherever possible, and understand the importance of teaching children of the future basic computer skills.

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